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EXAMINER

LACLAIR, DARCY D

ART UNIT	PAPER NUMBER
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1763

NOTIFICATION DATE	DELIVERY MODE
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09/15/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/049,447	Applicant(s) LADOUCE ET AL.	
	Examiner DARCY D. LACLAIR	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 25-51 is/are pending in the application.
- 5a) Of the above claim(s) 47-51 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 25-46 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) 25-51 are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 25-46, drawn to a composition prepared by drying a suspension.

Group II, claim(s) 47-48, drawn to a method for reinforcing a polymer composition.

Group III, claim(s) 49-51, drawn to a reinforced polymer composition.

Groups I, II, and III lack unity of invention because even though the inventions of these groups require the technical feature of a composition obtained by drying a suspension comprising two mineral or organic particles A and B, this technical feature is not a special technical feature as it does not make a contribution over the prior art in view of **Bergna (US 4,217,240)**. Specifically, Bergna discloses an aluminosilicate sol with uniform size particles prepared by combining a silica sol and an alkali metal aluminate solution to a sol of uniform sized colloidal particles of aluminosilicate or silica. (See abstract) The suspension is then dried to a uniform particle sized powder. (See col 2 line 42-44) The uniformly sized colloidal particles are spheroidal, which is a form factor of approximately 6 (spherical) and therefore less than 15. The silica sol particles

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of uniform size have –OH groups on the surface, which makes them readily dispersible in a polymer medium.

2. During a telephone conversation with **Roger H. Lee** on **8/19/2011** a provisional election was made **with traverse** to prosecute the invention of **Group I, claims 25-46**. Affirmation of this election must be made by applicant in replying to this Office action. Claims 47-51 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Product by Process

It is noted that **Claims 25-26, 28-31 and 43-46**, with respect to obtaining the composition, drying, and obtaining the alumina, are stated in product by process format.

“[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Note MPEP 804: "Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970)."

Double Patenting, I

4. **Claims 25-46** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-9 of U.S. Patent No. 6,221,149**. Although the conflicting claims are not identical, they are not patentably distinct from each other because both require a composition prepared by drying a suspension of two components.

With respect to Claims 25-27, 32-33 and 37-39 and 42, the conflicting patent requires a precipitated silica having a CTAB specific surface area between 100 and 240

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m²/g, and a pore volume and pore distribution such that the pores whose diameter is between 175 and 275 Å represent a pore volume less than 50% of the pore volume of the pores of diameters smaller than or equal to 400 Å. The silica additionally has an aluminum content of at least 0.45% by weight, and the silica is in the form of spherical beads. (See Claim 1) The silica particle has –OH groups, which are interactive with water or polymer media, and can therefore be readily dispersed in such a medium. The aluminum is provided by the presence of at least one aluminum compound A, and at least one aluminum compound B. (See col 3 line 20-24) The aluminum compound A is generally employed in the form of an aqueous solution (see col 6, line 41-42) and compound B is an alkali metal (see col 7 line 18-21). The aluminum compound in aqueous solution, or sol, and is thus expected to have a roughly spherical dispersed form. Aluminum particles are not expected to be readily dispersible in a polymeric medium.

With respect to Claims 28-31, the obtained particles are in the form of spherical beads. (Claim 1) This form is obtained by drying by spray drying with a nozzle sprayer (see col 7 line 35-46) which will atomize the spray. The conflicting patent exemplifies preparation of the silica by a reaction at a temperature of 80°C, followed by additional processing. No heating or cooling steps are noted, and no specific temperature for the nozzle sprayer is noted, (see col 11 line 40-54) thus it is the examiner's position that the spray drying is performed between room temperature and 80°C.

With respect to Claims 34 and 36, the obtained particles have a median diameter after disintegration smaller than 4.5 microns. (See Claim 6) The ultrasonic

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disintegration factor is higher than 5.5 mL. (See Claim 3) The diameter is exemplified as smaller than 3.8 micron, and the disintegration is exemplified as higher than 12.5 mL. (See col 9 line 20-28)

With respect to Claim 35, attention is directed to the discussion of Claim 33, above.

With respect to Claims 40-41, the obtained particle has an aluminum content of at least 0.45% by weight, (see Claim 1) provided by at least one aluminum compound A, and at least one aluminum compound B. (See col 3 line 20-24) Aluminum compound A is preferably aluminum sulphate, and it is added simultaneously with a silicate compound, in the presence of an acidifying agent. (See col 5 line 9-20) This will yield an aluminosilicate. Aluminum compound B is preferably an alkali metal, such as potassium or sodium aluminate. (See col 7 line 18-21) This is preferably added simultaneously with an acidifying agent (col 7 line 1-4) such as an organic salt such as carboxylic or polycarboxylic acid. The simultaneous addition of this combination yields an aluminum hydroxycarbonate addition, as these salts dissociate in solution.

With respect to Claim 43-46, the aluminum compound is obtained by providing an aluminum compound A and an aluminum compound B, which can be aluminum sulfate and sodium aluminate. (See the discussion of Claims 40-41, above) These are dispersed in solution an acidifying agent (see col 5 line 9-20) and then co-precipitated. It is the examiner's position that this will provide an alumina particle consistent with the chemical formula required by applicant. It is noted that determination of patentability is based on the product itself, and thus the patentability of the final product and the

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alumina used does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Therefore as it appears that the alumina particles will be the same resulting particles obtained by precipitation, the required particles A are present.

Double Patenting, II

5. **Claims 25-46** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-27 of U.S. Patent No. 5,876,494**. Although the conflicting claims are not identical, they are not patentably distinct from each other because both require a composition prepared by drying a suspension of two components.

With respect to Claims 25-27, 32-33 and 37-39 and 42, the conflicting patent requires a process for preparing a precipitated silica starting with a feed stock of silicate and an additive of at least one aluminum compound A and at least one aluminum compound B (Claim 1) where the silica has a CTAB specific surface area between 100 and 240 m²/g, and a pore volume and pore distribution such that the pores whose diameter is between 175 and 275 Å represent a pore volume less than 50% of the pore volume of the pores of diameters smaller than or equal to 400 Å. The silica is in the form of spherical beads. (See Abstract) The silica particle has –OH groups, which are interactive with water or polymer media, and can therefore be readily dispersed in such a medium. The aluminum compound A is an organic aluminum salt or an inorganic

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aluminum salt (Claims 23-24) and the aluminum compound B is an alkali metal aluminate. (Claim 26) Aluminum compound A is employed in the form of an aqueous solution (see col 6 line 29-30) and an aqueous solution, or sol, and is expected to have a roughly spherical dispersed form. Aluminum particles are not expected to be readily dispersible in a polymeric medium.

With respect to Claims 28-31, the final composition is dried by spray drying by spraying (Claim 18) with a multinozzle sprayer (Claim 19) which will atomize the spray. The conflicting patent exemplifies preparation of the silica by a reaction at a temperature of 80°C, followed by additional processing. No heating or cooling steps are noted, and no specific temperature for the nozzle sprayer is noted, (see col 11 line 30-45) thus it is the examiner's position that the spray drying is performed between room temperature and 80°C.

With respect to Claims 34 and 36, the particle is disintegrated (see Claim 1-2, 8) and the obtained particles have a median diameter after disintegration smaller than 5 microns, (see col 8 line 52-53), preferably smaller than 3.8 microns. (See col 9 line 24-26) The ultrasonic disintegration factor is higher than 12.5 mL. (See col 9 line 14-16)

With respect to Claim 35, attention is directed to the discussion of Claim 33, above.

With respect to Claims 40-41, Aluminum compound A is aluminum sulphate, (Claim 25) and it is added simultaneously with a silicate compound, in the presence of an acidifying agent. (Claim 4) This will yield an aluminosilicate. Aluminum compound B is an alkali metal, such as sodium aluminate. (Claim 26-27) This is added

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simultaneously with an acidifying agent (Claim 2) such as carbonic acid. (See col 7 line 4-6 and col 3 line 41-44) The simultaneous addition of this combination yields an aluminum hydroxycarbonate addition, as these salts dissociate in solution.

With respect to Claim 43-46, the aluminum compound is obtained by providing an aluminum compound A and an aluminum compound B, which can be aluminum sulfate and sodium aluminate. (See the discussion of Claims 40-41, above) These are dispersed in solution an acidifying agent (see col 5 line 9-20) and then co-precipitated. It is the examiner's position that this will provide an alumina particle consistent with the chemical formula required by applicant. It is noted that determination of patentability is based on the product itself, and thus the patentability of the final product and the alumina used does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Therefore as it appears that the alumina particles will be the same resulting particles obtained by precipitation, the required particles A are present.

Double Patenting, III

6. **Claims 25-46** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-21 of U.S. Patent No. 5,800,608**. Although the conflicting claims are not identical, they are not patentably distinct from each other because both require a composition prepared by drying a suspension of two components.

With respect to Claims 25-27, 32-33 and 37-39 and 42, the conflicting patent requires a process for preparing a precipitated silica starting with a feed stock of silicate to produce a suspension of precipitated silica, and an additive of at least one aluminum compound A and at least one aluminum compound B (Claim 1) where the silica has a CTAB specific surface area between 140 and 200 m²/g and the silica is in the form of spherical beads. (See abstract) The silica has a pore volume and pore distribution such that the pores whose diameter is between 175 and 275 Å represent a pore volume less than 50% of the pore volume of the pores of diameters smaller than or equal to 400 Å. (See col 8 line 30-46) The silica particle has –OH groups, which are interactive with water or polymer media, and can therefore be readily dispersed in such a medium. The aluminum compound A is an organic aluminum salt or an inorganic aluminum salt (Claims 9-10) and the aluminum compound B is an alkali metal aluminate. (Claim 12) Aluminum compound A is employed in the form of an aqueous solution (see col 5 line 62-63) and an aqueous solution, or sol, and is expected to have a roughly spherical dispersed form. Aluminum particles are not expected to be readily dispersible in a polymeric medium.

With respect to Claims 28-31, the final composition is dried by spray drying by spraying (Claim 15) with a nozzle sprayer (Claim 17) which will atomize the spray. The conflicting patent exemplifies preparation of the silica by a reaction at a temperature of 94°C, followed by additional processing. No heating or cooling steps are noted, and no specific temperature for the nozzle sprayer is noted, (see col 11 line 58- col 12 line 13)

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thus it is the examiner's position that the spray drying is performed between room temperature and 94°C.

With respect to Claims 34 and 36, the particle is disintegrated (see Claim 1-2, 7) and the obtained particles are characterized as having a median diameter after disintegration a smaller than 2.5 microns. (See col 8 line 20-22) The ultrasonic disintegration factor is at least 21 mL. (See col 8 line 23-24)

With respect to Claim 35, attention is directed to the discussion of Claim 33, above.

With respect to Claims 40-41, Aluminum compound A is aluminum sulphate, (Claim 11) and it is added simultaneously with a silicate compound, in the presence of an acidifying agent. (Claim 1-2) This will yield an aluminosilicate. Aluminum compound B is sodium aluminate. (Claim 13) This is added simultaneously with an acidifying agent (Claim 1-2) such as carbonic acid. (See col 6 line 16-25) The simultaneous addition of this combination yields an aluminum hydroxycarbonate addition, as these salts dissociate in solution.

With respect to Claim 43-46, the aluminum compound is obtained by providing an aluminum compound A and an aluminum compound B, which can be aluminum sulfate and sodium aluminate. (See the discussion of Claims 40-41, above) These are dispersed in solution an acidifying agent (see col 4) and then co-precipitated. It is the examiner's position that this will provide an alumina particle consistent with the chemical formula required by applicant. It is noted that determination of patentability is based on the product itself, and thus the patentability of the final product and the alumina used

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does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Therefore as it appears that the alumina particles will be the same resulting particles obtained by precipitation, the required particles A are present.

Double Patenting, IV

7. **Claims 25-46** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-8 of U.S. Patent No. 6,702,888**. Although the conflicting claims are not identical, they are not patentably distinct from each other because both require a composition prepared by drying a suspension of two components.

With respect to Claims 25-27, 32-34, 36-39 and 42, the conflicting patent requires a precipitated silica having a CTAB specific surface area between 140 and 200 m²/g, the silica is in the form of spherical beads, and the obtained particles are characterized as having a median diameter after disintegration a smaller than 3 microns with the ultrasonic disintegration factor higher than 10 mL, and a pore volume and pore distribution such that the pores whose diameter is between 175 and 275 Å represent a pore volume less than 50% of the pore volume of the pores of diameters smaller than or equal to 400 Å. The composition additionally has an aluminum content between 0.75 and 1.40% by weight. (Claim 1 and 2) The silica particle has –OH groups, which are interactive with water or polymer media, and can therefore be readily dispersed in such

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a medium. The aluminum content is obtained by providing additive of at least one aluminum compound A and at least one aluminum compound B. (See col 3, line 17-34) The aluminum compound A is an organic aluminum salt or an inorganic aluminum salt (see col 5, line 56-67) and the aluminum compound B is an alkali metal aluminate. (See col 6 line 44-46) Aluminum compound A is employed in the form of an aqueous solution (see col 5 line 66-67) and an aqueous solution, or sol, and is expected to have a roughly spherical dispersed form. Aluminum particles are not expected to be readily dispersible in a polymeric medium.

With respect to Claims 28-31 and 35, the final composition has a spherical shape (Claim 1) obtained by spray drying with a nozzle sprayer (see col 7 line 1-9) which will atomize the spray. The conflicting patent exemplifies preparation of the silica by a reaction at a temperature of 94°C, followed by additional processing. No heating or cooling steps are noted, and no specific temperature for the nozzle sprayer is noted, (see col 12 line 1-37) thus it is the examiner's position that the spray drying is performed between room temperature and 94°C.

With respect to Claims 40-41, Aluminum compound A is aluminum sulphate, (see col 6 line 1-2) and it is added simultaneously with a silicate compound, in the presence of an acidifying agent. (See col 4 line 52-58) This will yield an aluminosilicate. Aluminum compound B is sodium aluminate. (See col 6 line 44-47) This is added simultaneously with an acidifying agent (see col 6 line 41-43) such as carbonic acid. (See col 3 line 49-552) The simultaneous addition of this combination yields an aluminum hydroxycarbonate addition, as these salts dissociate in solution.

With respect to Claim 43-46, the aluminum compound is obtained by providing an aluminum compound A and an aluminum compound B, which can be aluminum sulfate and sodium aluminate. (See the discussion of Claims 40-41, above) These are dispersed in solution an acidifying agent (see col 3-4) and then co-precipitated. It is the examiner's position that this will provide an alumina particle consistent with the chemical formula required by applicant. It is noted that determination of patentability is based on the product itself, and thus the patentability of the final product and the alumina used does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Therefore as it appears that the alumina particles will be the same resulting particles obtained by precipitation, the required particles A are present.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claims 25-46** are rejected under 35 U.S.C. 102(b) as being anticipated by **Bohmal et al. (US 5,876,494)**.

With respect to Claims 25-27, 32-33 and 37-39 and 42, Bohmal teaches a precipitated silica starting with a feed stock of silicate and an additive of at least one

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aluminum compound A and at least one aluminum compound B where the silica has a CTAB specific surface area between 100 and 240 m²/g, and a pore volume and pore distribution such that the pores whose diameter is between 175 and 275 Å represent a pore volume less than 50% of the pore volume of the pores of diameters smaller than or equal to 400 Å. The silica is in the form of spherical beads. (See Abstract, col 5 line 10-15)) The silica particle has –OH groups, which are interactive with water or polymer media, and can therefore be readily dispersed in such a medium. Aluminum compound A is employed in the form of an aqueous solution (see col 6 line 29-30) and an aqueous solution, or sol, and is expected to have a roughly spherical dispersed form. Aluminum particles are not expected to be readily dispersible in a polymeric medium.

With respect to Claims 28-31, the final composition is dried by spray drying by spraying with a multinozzle sprayer (see col 7 line 26-36) which will atomize the spray. The conflicting patent exemplifies preparation of the silica by a reaction at a temperature of 80°C, followed by additional processing. No heating or cooling steps are noted, and no specific temperature for the nozzle sprayer is noted, (see col 11 line 30-45) thus it is the examiner's position that the spray drying is performed between room temperature and 80°C.

With respect to Claims 34 and 36, obtained particles have a median diameter after disintegration smaller than 5 microns, (see col 8 line 52-53), preferably smaller than 3.8 microns. (See col 9 line 24-26) The ultrasonic disintegration factor is higher than 12.5 mL. (See col 9 line 14-16)

With respect to Claim 35, attention is directed to the discussion of Claim 33, above.

With respect to Claims 40-41, Aluminum compound A is aluminum sulphate, (Claim 25) and it is added simultaneously with a silicate compound, in the presence of an acidifying agent. (See cp; 4 line 64-col 5 line 15) This will yield an aluminosilicate. Aluminum compound B is an alkali metal, such as sodium aluminate. (Claim 26-27) This is added simultaneously with an acidifying agent (Claim 2) such as carbonic acid. (See col 7 line 4-6 and col 3 line 41-44) The simultaneous addition of this combination yields an aluminum hydroxycarbonate addition, as these salts dissociate in solution.

With respect to Claim 43-46, the aluminum compound is obtained by providing an aluminum compound A and an aluminum compound B, which can be aluminum sulfate and sodium aluminate. (See the discussion of Claims 40-41, above) These are dispersed in solution an acidifying agent (see col 5 line 9-20) and then co-precipitated. It is the examiner's position that this will provide an alumina particle consistent with the chemical formula required by applicant. It is noted that determination of patentability is based on the product itself, and thus the patentability of the final product and the alumina used does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Therefore as it appears that the alumina particles will be the same resulting particles obtained by precipitation, the required particles A are present.

9. **Claims 25-46** are rejected under 35 U.S.C. 102(b) as being anticipated by **Bohmal et al. (US 5,800,608)**.

With respect to Claims 25-27, 32-33 and 37-39 and 42, Bohmal teaches a process for preparing a precipitated silica starting with a feed stock of silicate to produce a suspension of precipitated silica, and an additive of at least one aluminum compound A and at least one aluminum compound B (Claim 1) where the silica has a CTAB specific surface area between 140 and 200 m²/g and the silica is in the form of spherical beads. (See abstract) The silica has a pore volume and pore distribution such that the pores whose diameter is between 175 and 275 Å represent a pore volume less than 50% of the pore volume of the pores of diameters smaller than or equal to 400 Å. (See col 8 line 30-46) The silica particle has –OH groups, which are interactive with water or polymer media, and can therefore be readily dispersed in such a medium. The aluminum compound A is an organic aluminum salt or an inorganic aluminum salt (Claims 9-10) and the aluminum compound B is an alkali metal aluminate. (Claim 12) Aluminum compound A is employed in the form of an aqueous solution (see col 5 line 62-63) and an aqueous solution, or sol, and is expected to have a roughly spherical dispersed form. Aluminum particles are not expected to be readily dispersible in a polymeric medium.

With respect to Claims 28-31, the final composition is dried by spray drying with a turbine sprayer (see col 7 line 27-35) which will atomize the spray. Bohmal exemplifies preparation of the silica by a reaction at a temperature of 94°C, followed by additional processing. No heating or cooling steps are noted, and no specific

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temperature for the nozzle sprayer is noted, (see col 11 line 58- col 12 line 13) thus it is the examiner's position that the spray drying is performed between room temperature and 94°C.

With respect to Claims 34 and 36, the obtained particles are characterized as having a median diameter after disintegration a smaller than 2.5 microns. (See col 8 line 20-22) The ultrasonic disintegration factor is at least 21 mL. (See col 8 line 23-24)

With respect to Claim 35, attention is directed to the discussion of Claim 33, above.

With respect to Claims 40-41, Aluminum compound A is aluminum sulphate, (Claim 11) and it is added simultaneously with a silicate compound, in the presence of an acidifying agent. (Claim 1-2) This will yield an aluminosilicate. Aluminum compound B is sodium aluminate. (Claim 13) This is added simultaneously with an acidifying agent (Claim 1-2) such as carbonic acid. (See col 6 line 16-25) The simultaneous addition of this combination yields an aluminum hydroxycarbonate addition, as these salts dissociate in solution.

With respect to Claim 43-46, the aluminum compound is obtained by providing an aluminum compound A and an aluminum compound B, which can be aluminum sulfate and sodium aluminate. (See the discussion of Claims 40-41, above) These are dispersed in solution an acidifying agent (see col 4) and then co-precipitated. It is the examiner's position that this will provide an alumina particle consistent with the chemical formula required by applicant. It is noted that determination of patentability is based on the product itself, and thus the patentability of the final product and the alumina used

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does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Therefore as it appears that the alumina particles will be the same resulting particles obtained by precipitation, the required particles A are present.

10. **Claims 25-46** are rejected under 35 U.S.C. 102(b) as being anticipated by

Bohmal et al. (WO 96/30304).

It is noted that the international Patent Application WO publication is being utilized for date purposes. However, since **WO 96/30304** is in French, in the discussion below, the US equivalent for **WO 96/30304**, namely **US 6,702,888**, is referred to in the body of the rejection below. All column and line citations are to the US equivalent.

With respect to Claims 25-27, 32-34, 36-39 and 42, Bohmal teaches precipitated silica having a CTAB specific surface area between 140 and 200 m²/g, the silica is in the form of spherical beads, and the obtained particles are characterized as having a median diameter after disintegration a smaller than 3 microns with the ultrasonic disintegration factor higher than 10 mL, and an aluminum content greater than 0.35%. (See abstract) The particles have a pore volume and pore distribution such that the pores whose diameter is between 175 and 275 Å represent a pore volume less than 50% of the pore volume of the pores of diameters smaller than or equal to 400 Å. (See col 8 line 40-49) The silica particle has –OH groups, which are interactive with water or polymer media, and can therefore be readily dispersed in such a medium. The aluminum content is obtained by providing additive of at least one aluminum compound A and at least one aluminum compound B. (See col 3, line 17-34) The aluminum

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compound A is an organic aluminum salt or an inorganic aluminum salt (see col 5, line 56-67) and the aluminum compound B is an alkali metal aluminate. (See col 6 line 44-46) Aluminum compound A is employed in the form of an aqueous solution (see col 5 line 66-67) and an aqueous solution, or sol, and is expected to have a roughly spherical dispersed form. Aluminum particles are not expected to be readily dispersible in a polymeric medium.

With respect to Claims 28-31 and 35, the final particle is obtained by spray drying with a nozzle sprayer (see col 7 line 1-9) which will atomize the spray. The conflicting patent exemplifies preparation of the silica by a reaction at a temperature of 94°C, followed by additional processing. No heating or cooling steps are noted, and no specific temperature for the nozzle sprayer is noted, (see col 12 line 1-37) thus it is the examiner's position that the spray drying is performed between room temperature and 94°C.

With respect to Claims 40-41, Aluminum compound A is aluminum sulphate, (see col 6 line 1-2) and it is added simultaneously with a silicate compound, in the presence of an acidifying agent. (See col 4 line 52-58) This will yield an aluminosilicate. Aluminum compound B is sodium aluminate. (See col 6 line 44-47) This is added simultaneously with an acidifying agent (see col 6 line 41-43) such as carbonic acid. (See col 3 line 49-552) The simultaneous addition of this combination yields an aluminum hydroxycarbonate addition, as these salts dissociate in solution.

With respect to Claim 43-46, the aluminum compound is obtained by providing an aluminum compound A and an aluminum compound B, which can be aluminum

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sulfate and sodium aluminate. (See the discussion of Claims 40-41, above) These are dispersed in solution an acidifying agent (see col 3-4) and then co-precipitated. It is the examiner's position that this will provide an alumina particle consistent with the chemical formula required by applicant. It is noted that determination of patentability is based on the product itself, and thus the patentability of the final product and the alumina used does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. Therefore as it appears that the alumina particles will be the same resulting particles obtained by precipitation, the required particles A are present.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARCY D. LACLAIR whose telephone number is (571)270-5462. The examiner can normally be reached on Monday-Friday 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MILTON I CANO/
Supervisory Patent Examiner, Art Unit 1763

DARCY D LACLAIR
Examiner
Art Unit 1763

/DDL/